

Application No. 10/588,545

RESPONSE TO RESTRICTION REQUIREMENT dated December 1, 2011

Reply to Office Action of September 20, 2011

Attorney Docket 7383-88964-US

LISTING OF THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Previously Present) A support for supporting a structure on a surface, the support comprising at least one support element, the or each support element comprising:

a piston,

a cylinder in which the piston is moveable, and

a brake which is adapted to engage the piston in a position that is stable relative to the cylinder,

wherein the piston and the cylinder are arranged so that a loading associated with the structure effects an adjustment of the support element,

and wherein an increase in hydraulic pressure within the cylinder, effected by the loading associated with the structure, activates the brake.

2. (Original) A support as claimed in claim 1 wherein the cylinder has a fluid inlet/outlet and is arranged so that an amount of fluid flowing through the or each inlet/outlet controls the movement of the or each piston relative to the or each cylinder.

3. (Original) A support as claimed in claim 2 wherein the movement of the or each piston effects a movement of a surface contact portion of the or each support element relative to the surface.

4. (Original) A support as claimed in claim 3 comprising at least two support elements, each of the support elements having a surface contact portion and wherein the fluid inlet/outlets are interconnected by at least one fluid conduit so that the fluid can flow between the inlet/outlets.

5. (Original) A support as claimed in claim 4 being arranged so that in use, when the support is placed on the surface and at least one of the surface contact portions does not contact the surface, a movement of the pistons relative to the cylinders is effected that adjusts the positions of the surface contact portions relative to the surface.

6. (Original) A support as claimed in claim 5 wherein each piston comprises the surface contact portion arranged to contact the surface.

7. (Original) A support as claimed in claim 5 wherein the surface contact portion is a component that is either in direct or indirect contact with the piston.

8. (Previously Presented) A support as claimed in claim 5 being arranged so that the pistons move relative to the cylinders, until an increase of fluid pressure in the cylinders actuates the brake.

9. (Previously Presented) A support as claimed in claim 1 wherein the brake of each support element is hydraulic.

10. (Previously Presented) A support as claimed in claim 9, wherein the piston of each support element has a cavity arranged so that in use fluid can penetrate from the inlet/outlet into the cylinder and into the cavity.

11. (Original) A support as claimed in claim 10 wherein the piston of each support element is elongate and at least one side portion has at least one recess that is linked to the cavity.

12. (Original) A support as claimed in claim 11 wherein a brake-pad or brake-cylinder is positioned in the or each recess of the piston and arranged so that if fluid penetrates into the cavity the or each brake-pad or brake-cylinder is in use moved towards an interior wall of the cylinder.

13. (Previously Presented) A support as claimed in claim 12 wherein the brake is arranged so that an increase of the fluid pressure in the cavity increases the pressure of the or each brake-pad or brake-cylinder against the interior wall of the cylinder and thereby acts against the moveability of the piston in the cylinder.

14. (Original) A support as claimed in claim 9 wherein the cylinder has at least one recess in an interior side wall and at least one brake pad or brake cylinder is positioned in the or each recess of the interior side wall and arranged to push against the piston to act against the moveability of the piston in the cylinder.

15. (Previously Presented) A support as claimed in claim 1 wherein the brake of each support element is mechanical.

16. (Original) A support as claimed in claim 15 comprising a brake portion which is moveable relative to the cylinder and with the piston until the movement of the surface contact portion is restricted.

17. (Previously Presented) A support as claimed in claim 16, wherein the brake portion is arranged so that, when the movement of the brake portion is restricted, a further movement of the piston relative to the cylinder activates the brake.

18. (Previously Presented) A support of claim 17, wherein the brake has wedging portions which in use effect a movement of the brake portion against an interior wall of the cylinder.

19. (Previously Presented) A support as claimed in claim 1 having three support elements.

20. (Previously Presented) A support as claimed in claim 1 having four support elements.

21. (Previously Presented) A support as claimed in claim 1 wherein the structure is a furniture item.

22. (Previously Presented) A support as claimed in claim 1 wherein the structure is a table.

23. (Previously Presented) A support as claimed in claim 1, wherein the brake is situated between two or more support elements and comprises at least two fluid reservoirs adapted such that when the pressure in at least one fluid reservoir is below a threshold level the fluid reservoirs are in fluid communication and when the pressure in at least two fluid reservoirs is above a threshold level the fluid reservoirs are not in fluid communication.

24. (Original) A support as claimed in claim 23, further comprising a valve disposed between the fluid reservoirs.

25. (Original) A support as claimed in claim 24, wherein the valve comprises:
a ceramic disk disposed between the reservoirs, the ceramic disk including at least one reservoir aperture;

at least two pistons, each piston being associated with a reservoir, each piston including a piston aperture, each piston being biased such that when the pressure in any reservoir is below a threshold level the piston aperture aligns with the reservoir aperture allowing fluid to flow therethrough and when the pressure in all reservoirs is above a threshold level the piston.

26. (Original) A support as claimed in claim 24, wherein the valve comprises:
at least two sealing elements, each sealing element being associated with a reservoir, wherein the sealing elements are shaped such that a change in pressure results in relative movement of the sealing elements with respect to one another such that if the pressure in all reservoirs is above a threshold level the sealing elements abut, preventing fluid flow between the reservoirs.

27. (Original) A support as claimed in claim 26, wherein the sealing elements are composed of gel.

28. (Original) A support as claimed in claim 27, wherein the sealing elements are pistons.

29. (Original) A support as claimed in claim 28, wherein the pistons are disposed between membranes.

30. (Previously Presented) An adjustable support for supporting a structure on an underlying surface, the support comprising a piston cylinder assembly, the piston being moveable relative to the cylinder with one of the piston or cylinder being connected with, or forming part of, the structure and the other being associated with a contact portion operative to engage the underlying surface, and a brake for inhibiting movement of the piston relative to the cylinder, the brake being operative in response to the application of predetermined loading conditions to a portion of the support.

31. (Previously Presented) An adjustable support according to claim 30, wherein the brake is operative in response to a threshold loading being applied to that portion of the piston cylinder assembly that is associated with the contact portion.

32. (Previously Presented) A braking system for a piston and cylinder assembly, the braking system comprising a brake adapted to be actuated by an increase in fluid pressure within the cylinder.

33. (Original) A braking system as defined in claim 32, wherein the piston has a cavity arranged so that in use fluid can penetrate from an inlet/outlet into the cylinder and into the cavity and wherein at least one side portion of the piston has at least one recess that is linked to the cavity.

34. (Original) A braking system as defined in claim 33, wherein a brake-pad or brake-cylinder is positioned in the or each recess of the piston and arranged so that if fluid penetrates into the cavity the or each brake-pad or brake-cylinder is in use moved towards an interior wall of the cylinder.

35. (Previously Presented) A braking system as defined in claim 34, wherein the brake is arranged so that an increase of the fluid pressure in the cavity increases the pressure of the or each brake-pad or brake-cylinder against the interior wall of the cylinder and thereby acts against the moveability of the piston in the cylinder.

36. (Previously Presented) A braking system as defined in claim 32, further including a fluid chamber within the cylinder, a piston plate positioned between the piston and the fluid chamber, and a cavity between the piston and the piston plate, the cavity containing:

resistance means such that in use the piston and piston plate are retained in a distal position relative to one another and on an increase in fluid pressure within the fluid chamber the piston and piston plate move proximal to one another;

at least one inlet/outlet extension extending through at least a portion of the cavity so that in use fluid can flow through the inlet/outlet extension and into the cylinder;

a valve for disrupting the flow of fluid through the inlet/outlet extension and into the cylinder upon an increase in fluid pressure within the cylinder,

the piston and piston plate being retained in a distal position relative to one another when the fluid pressure within the fluid chamber is at a predetermined level and on an increase in fluid pressure within the fluid chamber the piston and piston plate move proximal to one another.

37. (Previously Presented) A braking system as defined in claim 36, wherein the cavity further includes a spring, the spring being adapted to retain the piston and piston plate in a distal position relative to one another and on an increase in fluid pressure within the fluid chamber, to allow the piston and piston plate move proximal to one another.

38. (Previously Presented) A braking system as defined in claim 36, wherein the cavity further includes a fluid-filled bladder, the fluid filled bladder being adapted to retain the piston and piston plate in a distal position relative to one another and on an increase in fluid pressure within the fluid chamber, to allow the piston and piston plate move proximal to one another.

39. (Original) A braking system as defined in claim 36, wherein the inlet/outlet extension comprises a tube extending through the cavity and into the cylinder.

40. (Original) A braking system as defined in claim 39, wherein the tube is flexible and at least one of the piston plate and piston comprises crimpers extending into the cavity such that when the fluid pressure in the cylinder increases and the piston plate and piston move proximal to one another the crimpers compress the flexible tube and disrupt fluid flow into the cylinder.

41. (Original) A braking system as defined in claim 39, wherein the tube includes a valve such that when the fluid pressure in the cylinder increases and the piston plate and piston move proximal to one another the valve disrupts fluid flow through the tube and into the cylinder.

42. (Original) A braking system as defined in claim 41, wherein the valve is a ball valve.

43. (Original) A braking system as defined in claim 39, wherein the tube includes a first member extending therethrough and the cavity contains a second member, the first member including a flow aperture to allow fluid penetration through the tube, the second member being adapted to move between an open position and a closed position such that in the closed position the flow aperture is blocked by the second member, disrupting fluid penetration through the tube and into the cylinder.

44. (Original) A braking system as defined in claim 43, wherein the first member and second member are each ceramic disks.

45. (Previously Presented) A braking system as defined in claim 36, wherein the inlet/outlet extension comprises a helical flexible tube portion extending through at least a portion of the cylinder.

46. (Previously Presented) A support for supporting a structure on a surface, the support comprising at least one support element, the or each support element comprising:

a piston,

a cylinder in which the piston is moveable, and

a brake for maintaining the piston in a position that is stable relative to the cylinder,

wherein the piston and the cylinder are arranged so that a loading associated with the structure effects an adjustment of the support element,

and wherein the loading associated with the structure activates the brake if the moveability of a surface contact portion of the support element is reduced below a threshold value.